

Method for Controlling Sample Introduction in Microcolumn Separation Techniques and Sampling Device

Abstract

In a method for controlling sample introduction in microcolumn separation techniques, more particularly in capillary electrophoresis (CE), where a sample is injected as a sample plug into a sampling device which comprises at least a channel for the electrolyte buffer and a supply and drain channel for the sample. The supply and drain channels discharge into the electrolyte channel at respective supply and drain ports. The distance between the supply port and the drain port geometrically defines a sample volume. The injection of the sample plug into the electrolyte channel is accomplished electrokinetically by applying an electric field across the supply and drain channels for a time at least long enough that the sample component having the lowest electrophoretic mobility is contained within the geometrically defined volume. The supply and drain channels each are inclined to the electrolyte channel. Means are provided for electrokinetically injecting the sample into the sample volume. The resistance to flow of the source and drain channels with respect to the electrolyte buffer is at least about 5% lower than the respective resistance to flow of the electrolyte channel.

(Fig. 4)